

WHAT IS CLAIMED IS:

1. A test fixture for providing access to contacts within a region of interest on a first surface of a circuit board, the test fixture comprising:

a frame disposed in proximity to said circuit board;

at least one compression link extending from said frame to said first surface of said
5 circuit board; and

at least one contact surface at a base of each compression link of said at least one compression link for contacting said first surface of said circuit board, wherein said at least one contact surface occupies a minimal footprint in comparison with an area of said region of interest.

2. The test fixture of claim 1 further comprising:

an insulating layer disposed between each of said at least one contact surfaces and said first surface of said circuit board.

3. The test fixture of claim 1 wherein the compression link comprises:

a compression mechanism attached to said frame for generating force;

a link extension coupled to said compression mechanism for transmitting said generated force to said first surface of said circuit board.

4. The test fixture of claim 3 wherein the compression mechanism comprises:

a force adjustment screw movable through a threaded hole in said frame.

5. The test fixture of claim 3 wherein the link extension comprises:

a coil spring coupled to said compression mechanism at a first end of said coil spring and to said base of said compression link at a second end of said coil spring.

6. The test fixture of claim 3 wherein the link extension comprises:

a rigid member coupled to said compression mechanism and to said base of said compression link.

7. The test fixture of claim 3 wherein the compression mechanism comprises:

a pneumatically actuated cylinder.

8. The test fixture of claim 1 wherein said at least one contact surface of said compression link is substantially centered with respect to a region of interest on said first surface of said circuit board.

9. The test fixture of claim 1 wherein the region of interest on said first surface of said circuit board is located opposite a region of attachment of an integrated chip package on a second surface of said circuit board.

10. The test fixture of claim 1 wherein the compression link comprises:

one compression mechanism; and

a plurality of link extensions coupled to said one compression mechanism.

11. The test fixture of claim 1 wherein said frame is connected to said circuit board.

12. The test fixture of claim 1 wherein said frame is connected to a structure which is mechanically independent of said circuit board.

13. The test fixture of claim 1 further comprising:

an adjustable mount disposed between said frame and said compression link for enabling said compression link to be moved with respect to said frame and to said first surface of said circuit board, thereby enabling an entirety of said region of interest to be
5 accessed employing a sequence of settings of said adjustable mount.

14. A method for providing access to a circuit board, the method comprising the steps of:

applying force to a first surface of said circuit board to substantially balance a force causing mechanical distortion of said circuit board; and

5 contacting said first surface of said circuit board with a contact element having a surface area which is substantially smaller than an area of a region of interest on said first surface of said circuit board to impart said applied force to said first surface, thereby providing access to contact points within a vast majority said region of interest.

15. The method of claim 14 wherein the step of applying force comprises:

securing a frame in proximity to said circuit board; and

extending a compression link from said secured frame to said first surface of said circuit board to thereby apply force to said circuit board.

16. The method of claim 15 wherein the step of applying force comprises:

securing a frame in proximity to said circuit board;

generating force employing a compression mechanism attached to said secured frame;

and

5 transmitting said generated force to said first surface of said circuit board employing an extension link coupled to said compression mechanism.

17. The method of claim 14 further comprising the step of:

disposing a component of interest on a second surface of said circuit board located opposite said region of interest on said first surface of said circuit board; and

coupling said contact points within said region of interest with said component of interest.

18. The method of claim 17, further comprising the step of:
testing said component employing selected ones of said coupled contact points.

19. The method of claim 17, further comprising the step of:
supplying power to said component employing selected ones of said coupled contact points.

20. The method of claim 17, wherein selected ones of said contact points are upper edges of vias coupled to said component of interest.